concerned, as far as it was possible in a bill which, to a certain extent, placed restrictions on the free will of individuals. In the bill of last year provisions were introduced for the purpose of regulating and improving drainage. He proposed to omit those clauses from this bill, as the subject of drainage and a proper supply of water to large towns and populous places was under the consideration of a commission which, he hoped, would before long, lay a report on the table of the house that would enable him to deal with the subject separately. All he proposed, therefore, in this measure was, such a provision on the subject of drainage as was indispensable for the purposes of the bill. There were also provisions for the purpose of preventing, as far as possible, the crowded and confined character of streets and lanes, which had heretofore, in numerous instances, produced so much disease amongst the poorer classes of the community in crowded districts; in fact, to so great an extent had the evil gone, that in some crowded streets fever continued without intermission from one end of the year to the other. He proposed that in future there should be certain widths as regarded streets and alleys, and as far as was practicable he proposed to regulate the use of buildings for habitations, prohibiting the use of cellars for that purpose where it was possible. There was also a clause in the bill to prohibit the carrying on of any dangerous trade or business in crowded neighbourhoods, and another provision to prevent the practice of any business which might be noxious to the public health in close and crowded districts. The House was aware that under the present Building-Act there was a power to appoint district-surveyors, and it was not proposed to interfere with that power, or to interfere with the power of magistrates to appoint them. He should remark that in some cases great abuses had arisen from the appointment of incompetent persons to that office. He proposed to have district-surveyors appointed by the magistrates, such surveyors not to be under thirty years of age, and not to be magistrates; and he also proposed that the appointment of surveyors should be confirmed by the Secretary of State, so as to secure the services of a superior class of officers. Although he objected to making new officers, yet he felt that it was absolutely necessary, to prevent excessive litigation, that official referees should be appointed to determine disputes, and he, therefore, proposed to appoint them by this measure. There was a provision for extending the operation of the Act round the metropolis; but not further than twelve miles from Charing-cross. There was also another provision, new to this bill, and which was not in the bill of last year; it was one for vesting the power of deciding on the report of the official referee in the Commissioners of Woods and Forests, in cases where any exceptions were taken to his reports. He earnestly hoped, though the bill was of a technical nature, and therefore not of a nature to command the attention of the House, that it would receive its best consideration.

Leave was then given to bring in the bill.

THE NEW ROYAL EXCHANGE.

A very splendid entertainment was given on Wednesday week, at Mercers' Hall, by the Mercers' Company to the Gresham Committee, in congratulation of the approaching period to their labours by the completion of the civic edifice, which is to be opened in the course of the next three months.

Mr. Watney, the Master of the Mercers' Company, was in the chair. Amongst the company were Alderman Humphery, Sir Chapman Marshall, Mr. R. L. Jones, the Chairman of the Gresham Committee; Mr. Tite, the architect of the New Royal Exchange; Mr. Palmer, Mr. Westmacott, the sculptor, &c.

In the course of the evening, Mr. Tite mentioned that he felt the highest gratification in stating that the works would be completely finished within the specified time. He expressed his gratitude for the great liberality they had exercised in giving additional beauty to the portico by employing Mr. Westmacott to make the ornamental sculpture for the pediment—a task which had been performed by that gentleman with remarkable classical taste. He trusted that the building which was so near completion would fully answer all the purposes for which it was raised, and that the prosperity of the great city for which such exertions were made, and such an expenditure was incurred, would increase in proportion to the magnificent improvements now so rapidly advancing.

Mr. Westmacott, in returning thanks for the warm manner in which he was received by the company, said he felt much pride in informing them that the sculpture of the pediment had been seen by some of the highest personages in the realm, and that he had been honoured by their approbation of the mode in which it had been executed. Prince Albert had come upon him unawares while he was at work in his apron, and emphatically pointed out the figures and decorations which His Royal Highness considered to deserve more especial notice. The Duke of Cambridge had also honoured him with a visit, and added to the gratification which he felt by an approval expressed in terms which nobody could mistake; and the greatest man in England, the Duke of Wellington, did not withhold his tribute of unaffected congratulation.

Mr. R. L. Jones took occasion to congratulate the city of London upon the splendid manner in which the Royal Exchange had arisen out of its ashes to claim comparison with the most famous buildings in the metropolis. In a few days the unsightly obstruction which the public had so long desired to see levelled to the ground would wholly disappear, and the figure of the hero of a hundred battles would appear before the edifice which might be considered as the type of the commercial greatness attributable in no small degree to his military skill and wisdom.

INSTITUTE OF BRITISH ARCHITECTS.

Jan. 8. C. Barry, Esq., R.A. V.P. in the chair.

A communication was read from W. M. Higgins, Esq., "On the recent restoration of the spire of St. Stephen, at Vienna." It proceeded to state, that the ancient church of St. Stephen is supposed to have been founded, in the year 1144, by Heinrich Jasomirgott, afterwards the first Duke of Austria, one of the twenty-three children of Agnesous, to whom the Klosterneuburgh owes its foundation. The church seems to have been several times injured by fire, and in 1519 by severe earthquakes, which did great injury to the buildings in Vienna and the vicinity, and on these occasions to have been partly rebuilt, and much enlarged. The tower, as built or restored in 1519, in process of time, deviated out of the perpendicular to a considerable extent. An iron bar was carried through it as an axis for the support of the spire, which, having a considerable tendency to vibrate, might be considered as an element of destruction, rather than of strength; consequently the thin wall of the lower portion of the spire was reduced almost to a ruin, and at length became in such a dangerous condition as to require rebuilding. The removal of the old spire was commenced in August, 1839, and in the following spring all the condemned part had been removed. The mode of construction adopted in the restoration was novel and ingenious; the slight masonry of the spire being supported by means of a framing of vertical iron ribs, fastened, at their lower extremities, to a cast-iron plate or base, and united to each other at intervals by horizontal rings of rolled iron. These rings are made to project from the inner surface, so as to admit of a person ascending, with the assistance of ladders, to the top of the spire. All the wrought and rolled iron employed in the construction of this iron skeleton, the weight of which was only 123 cwt., was prepared in the government works at Neuberg, in Styria. The cast-iron plates or rings were furnished from the government iron works at Mariezell. In the autumn of 1842, when the whole of the masonry of the spire had been completed, the upper portion, consisting entirely of iron-work, was fixed. This also was attached to a strong cast-iron circular plate, similar in constructing to that below. This portion of the framing, with the other iron-work employed in the spire, weighed about 80 cwt., so that the entire weight of iron was about 203 cwt. The new portion of the spire was connected to the old by means of an arrangement of iron-work, very appropriately called "anchor-fastenings." The portion of the spire restored (viz. from the gallery of the tower to the top of the cross) is about 182 feet, the cost thereof being about 130,000 gulden, of which sum 15,500 gulden were expended in taking down the old spire, and in the construction of the necessary scaffolding. Objections have been raised at Vienna to the extensive use of wrought iron in the reconstruction, from an apprehension of injury arising from the dilatation of the metal under changes of temperature; it appears, however, from careful experiments made, that the expansion of a bar of wrought-iron 30-feet in length, under an alteration of 40° Reaumur, is not more than three lines, even in a horizontal position, and would be less in a vertical position, in consequence of the pressure of the upper parts on the lower; and the opposite effect would increase with the diminution of temperature, the effect being still less when a number of pieces are united, forming a system (as in the iron work of the spire), than when the same length is in a single piece. It further appears that Bolinger, the mechanical engineer, found the dilatation of one of the iron ribs, between the temperature of summer and winter, to be only one line, and that of the iron framework, when completed and exposed to the direct rays of the sun before it was covered by the masonry, to be imperceptible.

Jan. 22. T. L. Donaldson, Esq., in the chair.

Mr. Poynter made some remarks on a plan and section of the transept of Minchinhampton Church, in Gloucestershire, presented by Messrs. Foster and Son, of Bristol. The transept was, he said, a very curious one of the fourteenth century, and it was most remarkable that the roof, although supported by stone joists, was built as if it were of timber. The transept was not large, being 29 ft. long and 15 ft. wide, and the roof was carried by six stone ribs; the height to the crown of the arch being 32 ft. The appearance was very irregular, the windows also being narrow. The roof was originally covered with slabs of stone, but is now tiled.

Feb. 5. W. Tite, V.P., in the chair.

A paper was read by Mr. J. J. Scoles, on the pyramids at Abou-Roash, and those to the southward, including those in the Faiyoum, and on an arched tomb existing in the vicinity of Gizeh, shewn in the third volume of Col. Vyse's work. There appeared to be thirty-nine pyramids in Middle and Lower Egypt, all of which have been explored by Mr. Perring, at the expense of Col. Vyse. They are situated on the western side of the Nile, chiefly on the Desert Hills, occupying a space, measuring from north to south, of fifty-three English miles. The principal pyramids alluded to are distinguished by the names of Gizeh, Sareen, Dashoor, and Meydoon, and have a remarkable correspondence in their general arrangements, their sides being placed true to the cardinal points, with one exception, the entrances being on the north side, and having inclined passages leading to various apartments; which passages to a considerable way down, have been filled up with solid blocks of stone or granite to the exact size of the apertures. Four of these pyramids are constructed of crude or unburned bricks, formed of loam, Nile earth, and chopped straw. In making the excavations necessary to elucidate their construction, Mr. Perring discovered that the foundation of some of the pyramids was formed by levelling the stony surface of the desert with fine sand, confined by stone walls surrounding the base, and on the sand was built the pyramid. Wood, forming the ceiling of one of the sepulchral chambers, and consisting of oak, larch, and cedar, was found in the interior of a pyramid at Sareen in a wonderful state of preservation. The walls of some of these sepulchral chambers were lined with a bluish green porcelain, and remains of colouring, gilding, and other embellishments, shewed the magnificence of the builders of these mausoles. The arched tomb near Gizeh was constructed of stone beautifully worked, and the joints were scarcely perceptible. From hieroglyphics inscribed on this monument, it appears to have been constructed in the reign of Psammetichus II., about 600 years before Christ, and is probably one of the oldest stone arches known; but Mr. Scoles seemed to have some doubt as to the high antiquity of this and other similar arches, from the circumstance that the arch was also used by the Greeks, and also that it was little used by the Egyptians at a later period.